Interoperability

Without it Everybody Loses

The alternative is vendor lock-in and higher costs, including the cost of maintaining systems that don't work together and people who can't talk to each other from place to place. And this lack of interest in creating functional, universal standards seems to be accelerating.

Back To The Future
Battles that didn't serve the Public…

Railroad Gauges: A Standards Battle

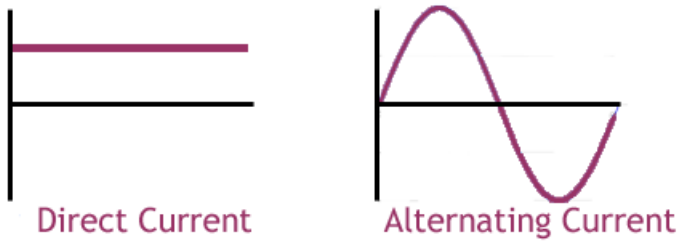
An example of standards battles involves the history of railroad gauges in the United States during the nineteenth century.

As railroads began to be built in the early nineteenth century, tracks of varying widths (gauges) were employed. By 1860, seven different gauges were in use in America, even though standards are generally socially beneficial, since they allow for easy "interconnections" and thus larger networks. But private interests can diverge from social interests. Battles over which standard to set, or whether there should be a standard at all, are common. Such battles can be severe, if not bloody, when there are entrenched users on both sides with high switching costs, when it is difficult for the various users to coordinate, and when some industry standardization faced three major obstacles: (1) it was costly to change the width of existing tracks, (2) each group wanted the others to make the move, and (3) workers whose livelihoods depended on the incompatibilities resisted the proposed changes In 1853 in Erie, Pennsylvania, where three different widths of railroad track met, there were riots over plans to standardize. ***Nonetheless, standardization was gradually achieved between 1860 and 1890, which served the greater good of the population.*** Many of the lessons from this experience remain relevant today.

The Betamax vs VHS Format War

Sony's Betamax video standard was introduced in 1975, followed a year later by JVC's VHS. For around a decade the two standards battled for dominance, with VHS eventually emerging as the winner. It is certainly true that VHS machines were initially much simpler and cheaper to manufacture, which would obviously be an attraction to companies deciding which standard to back. The video recording market was an unknown when VCRs first came on the market; as such, Sony and JVC were both developing technologies that were unproven. In any case, manufacturers divided themselves into two camps: On the Betamax side were Sony, Toshiba, Sanyo, NEC, Aiwa, and Pioneer. On the VHS side were JVC, Matsushita (Panasonic), Hitachi, Mitsubishi, Sharp, and Akai. What Sony did not take into account was what the consumers wanted. While Betamax was *believed* to be the superior format in the minds of the public and press (due to excellent marketing by Sony), consumers really wanted an *affordable* VCR (a VHS often cost hundreds of dollars less than a Betamax); For thirty years JVC dominated the home market with their VHS, Super VHS and VHS-Compact formats, and collected billions in royalty payments, and ***customers lost the better format***

Interoperability



AC/DC Current

Although Thomas Edison is justly remembered for his many formidable contributions to our modern world, his direct current (DC) electrical grid was his greatest failure and most absurd folly. Edison, at first, had great success with DC, which debuted in 1882 in New York City and quickly became the early standard of electricity transmission in U.S. cities. However, as the demand for electricity increased, DC's limitations quickly became apparent when compared with the alternating current (AC) technology developed by Edison's one-time employee Nikola Tesla (and championed by his competitor Westinghouse). To thwart the adoption of AC, and to save his investments and patents, Edison funded a vast and outrageous misinformation campaign to discredit it, even staging public electrocutions of animals to show how dangerous AC current was --. The demonstration also did nothing to halt the widespread adoption of AC current which was a better choice for the public.